



DOCKET FILE COPY ORIGINAL

**City of Phoenix**  
POLICE DEPARTMENT

RECEIVED

FEB 05 1993

FCC MAIL ROOM

February 1, 1993

Secretary  
Federal Communications Commission  
Washington, D.C. 20554

Subj: Comments, PR Docket 92-235

Our communications staff has reviewed the subject Notice of Proposed Rule Making and would like to submit the following comments. The proposal, and the new Part 88, are written with the best intentions but the implementation schedule is too aggressive for an unproven technology. We share your goal of obtaining more efficient use of the spectrum, but the proposal and timetable will create an impossible hardship on the operation of this Department. Please allow us to share our concerns as a part of the hearing process.

**ECONOMIC IMPACT**

To achieve our mission of delivering law enforcement services and protection to the citizens of Phoenix requires twenty channels of two-way radio. Our current inventory of radios totals 3891, in a mixture of VHF and UHF. This split-band operation creates administrative complexity but is necessary to obtain the total number of channels required for Investigative and Patrol services. Some officers are required to carry two radios to stay informed, and to have access to dispatchers. Departmental strength is approximately 2200 sworn personnel and 1320 vehicles.

Given an uncertain economy and the fact that much of our radio communications equipment is new within the last 2-3 years, the impact of narrowbanding and improved selectivity to remain in operation on the current channels is overwhelming. Replacement of these systems is not scheduled until FY 2001-02. In order to provide reliable coverage for officer safety it has been necessary to install an elaborate voting receiver network that covers the 430sq.mi. incorporated area of the city of Phoenix. This represents an infrastructure of 310 receivers and eighty transmitters and control stations.

The required replacement or narrowbanding of a system of this size on a timetable earlier than that indicated below would cripple our already strained budget. At the present time we are involved in a consultant study on the feasibility of moving to a trunked 800MHz system at the time of system replacement. Earliest estimates have been made at \$30-35 million to install a citywide NPSPAC network. Since this funding has not been identified or programmed, it is imperative that we protect both the utility of our current assets and the quality of voice and data transmission during the remaining life of this system. We are unable to provide VHF/UHF or 800MHz replacement before FY 2001-02, and even that is uncertain.

#### TECHNICAL ISSUES

Your staff is well aware of the reduction of information capacity that accompanies reduced deviation in an FM system. With reduced bandwidth (2M+2D) we can likely compensate for the loss of audio recovery in our voice channels. Narrowbanding, however, will render useless the encrypted voice channels we have in operation through UHF repeaters. These channels are required for undercover operations, and are marginal when optimally tuned. Further reductions in bandwidth would render this asset totally useless. Two encrypted channels have been completed within the last two years at considerable cost.

Establishing interstitial channel assignments in the newly vacated spectrum is an excellent future objective after the required selectivity has been demonstrated and widely employed. Until that time, intolerable interference will result from any attempts to assign users to the newly created adjacent channels. Even the technical issues continue to have economic implications. Given enough money, motivation and prudence the desired outcome is achievable, but those factors are lacking at this time. Again, only after the technology has matured and been demonstrated will it be appropriate to adopt the proposed efficiencies.

The proposed NPRM and Part 88 also will create problems in the area of frequency stability and base station ERP. As noted earlier the City of Phoenix encompasses a very large geographic area, where one precinct is more than twice the size of Miami, FL, and we have six precincts. Primary transmitters are located on two mountain tops and employ fairly high ERPs to achieve building penetration. The proposed 5W Effective Radiated Power from higher HAAT creates a dilemma in engineering, operations and finance.

To achieve the necessary coverage would require a massive network of lower power transmitters with steering. The cost would be prohibitive. The low power, mountain-top provision in the proposal needs some footnote options. We do not abuse the current intent of the rules by using excessive ERP. Our service area also covers adjacent cities, so specified dBu contours are not the total answer. Such a radical departure would create chaos and could compromise officer safety. We too are interested in spectrum conservation and adequate power levels but not with the risks attendant to the proposed regulations.

#### RECOMMENDATIONS

We recommend the following as a part of refarming the spectrum:

- 1) Adopt a slow and orderly approach, allowing the technology to be proven and deployed prior to channel splitting. The current proposal anticipates technological breakthrough in the areas of voice coding and digital modulation. We would encourage transmitter narrowbanding with some kind of incentive for early adopters. Field studies (not computer modeling) should be conducted to confirm the required selectivity and oscillator stability. We seem to be reverse-engineering in this matter.

2) Any expansion of channels identified by refarming should be retained within that service group and administered through a frequency coordination body. Distinctions and exclusions given in the footnotes should remain, allowing at least as much discretion as currently exists. It is not possible to establish an all-encompassing set of regulations to meet every need. Distributed hierarchy, such as State administered APCO, should remain in place to adjudicate special coverage needs with recommendations to the Commission.

3) Preferential treatment should not be established in the creation of a new set of SMRs coincident with the RBOC boundaries. Public safety should neither be encouraged, nor forced to abandon self-administered, private dispatch operation. Frequency sharing from a pool should still maintain an identity for a certain user group and administration. Erasing all unique features of channel assignments and user boundaries will create an inter-modulation nightmare, even at reduced power levels.

4) The proposed reduction in ERP levels assumes free-space propagation, while in reality the higher power levels are required to fill canyons and valleys through knife-edge diffraction. "Refarmed" coverage should not be reduced from present coverage, and should not become a burdensome matter of proof to retain. Trust and experience should prevail in cases regarding current systems.

5) Any plan should consider interoperability, migration and the protection of VHF repeater pairs for public safety. Exclusive use overlays and the current 70 mile co-channel proviso should be retained with a block allocation for public safety licensees.

Activities leading to more efficient use of the spectrum must be governed by economic and technological realities. This is especially true in Public Safety, where we are faced with an ever increasing demand for services and a continuous reduction in funding. Please include these concerns in your decision process on this Notice of Proposed Rule Making.

Sincerely,

A handwritten signature in black ink, appearing to read "Dennis A. Garrett". The signature is fluid and cursive, with a large initial "D" and "G".

Dennis A. Garrett  
Police Chief